

A photograph of a juvenile Saltmarsh Sparrow standing in a marshy area. The bird is the central focus, shown in profile facing right. It has a brown and white streaked pattern on its back and wings, with a lighter, more uniform color on its underparts. Its head is brown with a distinct white stripe above the eye. The bird is standing on a dark, sandy or silty ground. In the background, there are tall, thin grasses, some green and some brown, creating a soft, out-of-focus backdrop. The overall lighting is natural, suggesting an outdoor setting.

Saltmarsh Restoration
Priorities for the
Saltmarsh Sparrow

New Jersey



Saltmarsh Sparrows in the nest. Lauren Owens Lambert

Goal Statement

The Saltmarsh Sparrow (*Ammospiza caudacuta*) is a Species of Special Concern in New Jersey. This document is intended to provide those interested in salt marsh and Saltmarsh Sparrow conservation with information that will help with conservation implementation. It identifies areas containing salt marsh that are good candidates for restoration, enhancement, and/or conservation to provide persistent high-quality Saltmarsh Sparrow nesting habitat in the next 6 years in addition to long-term salt marsh resilience.

Saltmarsh Sparrow Objectives from the Atlantic Coast Joint Venture (ACJV)

The ACJV's Saltmarsh Sparrow Conservation Plan (Hartley and Weldon, 2020) identifies state-by-state population and habitat goals for the Saltmarsh Sparrow based on a goal population of 25,000 birds. New Jersey's breeding Saltmarsh Sparrow population is estimated to be 33.2% of the regional population as of 2011/2012 (Wiest et al. 2019), the highest of any state within the breeding range. Its population goal was therefore calculated as 33.2% of the regional population goal of 25,000 birds. Habitat goals listed in the table below are the minimum acres of high-quality habitat (defined below) needed to support the state's population goal. The short-term habitat goal sets a realistic target for the next 10 years (by 2030); the long-term habitat goal is set to achieve and sustain the state's Saltmarsh Sparrow population goal.

	2011/2012 Population Estimate*	State's %	Population Goal (Indiv)	2030 high marsh goal (ac)**	Total marsh needed to meet 2030 goal (ac)***	Long-term (2069) High Marsh Goal** (ac)	Total marsh needed to meet 2069 goal (ac)**
New Jersey	19,900 (+/- 13,600)	33.2%	8,306	8,004	22,233	21,396	59,433
Regional	60,000		25,000	22,943	63,731	79,603	221,119

*Updated population estimates exist for each marsh patch within the range of the Saltmarsh Sparrow; however they are currently under peer review. When they are published, these figures will be updated to reflect the detections in the maps contained within this document.

**High marsh goals represent acres of "high quality habitat," defined as having conditions that support a stable or growing population of breeding Saltmarsh Sparrows.

*** Acreage based on the assumption that ~36% of tidal marsh acreage is high marsh (Correll et al. 2019).

High-quality Habitat for Saltmarsh Sparrows

High-quality habitat is defined as conditions that allow sufficient reproductive success to support a stable or growing Saltmarsh Sparrow population. Conservation should focus on preserving, restoring, or enhancing high-quality breeding habitat, which will have the following characteristics:

- High marsh patches with the lowest flooding frequency which provide a relatively safe window of at least 24 days with limited flooding.
- Extensive and dense *Spartina patens* vegetation with a deep, well-developed thatch layer; short-form *S. alterniflora*, *Distichlis spicata*, and *Juncus gerardii* also comprise high marsh areas and can support Saltmarsh Sparrow nesting.
- The highest quality high marsh habitat is most often found in the least modified marshes, such as those without ditching, or that are downstream, or free of tidal restrictions like road crossings.



Marsh periwinkles on blades of *Spartina alterniflora*. Chesapeake Bay Program

Marsh Identification and Prioritization Process

Marsh parcels were identified and characterized by first identifying the highest-ranked marsh patches identified by the ACJV Saltmarsh Sparrow Habitat Prioritization Tool (top 10%; ACJV 2020). They were then reviewed and refined by a group of non-profit, academic, state, and federal partners. Marsh summaries were created, informed, and finalized via partner working groups (see Acknowledgements for full partner list). This group has sorted the following marshes into the following subcategories to further refine this prioritization within the state.

Priority Marshes: Marshes prioritized for ongoing restoration planning and action to support the Saltmarsh Sparrow in New Jersey.

Reference Marshes: These marshes are in near-pristine condition and can act as reference marshes for restoration efforts in the state. Long-term preservation of these areas and the open space around them to facilitate long-term marsh migration is important, but no immediate restoration action is suggested for them.

Honorable Mention: The following marshes were identified by the partner group as important to keep in mind for future work but needing additional assessment before any work can be planned.

Please see the overview map for all marshes identified in the state. The information in this document including spatial delineations of priority marshes is available as part of a regional set of marsh restoration priorities for the Saltmarsh Sparrow. This information is available to view on the [ACJV Saltmarsh Sparrow mapper](#).

Restoration Technique Definitions

The following terms are used repeatedly throughout this document to identify opportunity for different techniques at identified marshes, including in the “attributes” section. ***This information is meant to identify opportunity and potential for these restoration techniques at each site but is not meant to be prescriptive.*** A formal site assessment and design is always necessary to identify specific next steps and restoration strategies within each marsh parcel.

Sediment placement

Placement of material (including sediments from dredging efforts) on the marsh platform. Includes thin-layer placement, thick-layer placement, beneficial use of dredged sediments, formation of hummocks/microtopography, etc.

Repair hydrology - runnelling / channel creation

Modification of marsh platform using shallow channel creation to remove or prevent ground water saturation at the marsh surface that results in marsh vegetation death and marsh subsidence. Excavated peat is reused to create structured microtopography.

Repair hydrology - tidal restriction mitigation

Removal or modification of large-scale tidal restrictions such as road crossings, culverts, bridges, etc. to restore tidal flow.

Repair hydrology - address ditch plugs

Adjustment of ditch plugging on marsh platform to improve hydrology.

Repair hydrology - ditch remediation

Adjustment of human-made ditches on the marsh platform to improve hydrology.

Repair hydrology - berm, embankment, or levee modification

Removal or alteration of berms, stonewalls or embankments to restore hydrology of marsh platform and marsh migration corridor.

Land acquisition / protection for marsh migration

Purchase or easement of land to protect for eventual marsh migration.

Facilitated marsh migration

Active assistance of marsh migration through modification of the environment.

Invasive plant species mitigation (*Phragmites australis*, etc.)

Removal or mitigation of invasive plants.

Living shoreline development

Development of nature-based features to promote shoreline stabilization.

Wildlife herbivory mitigation

Removal or management of wildlife due to overgrazing. Wildlife includes deer, horses, crabs, geese, etc.

Stormwater mitigation

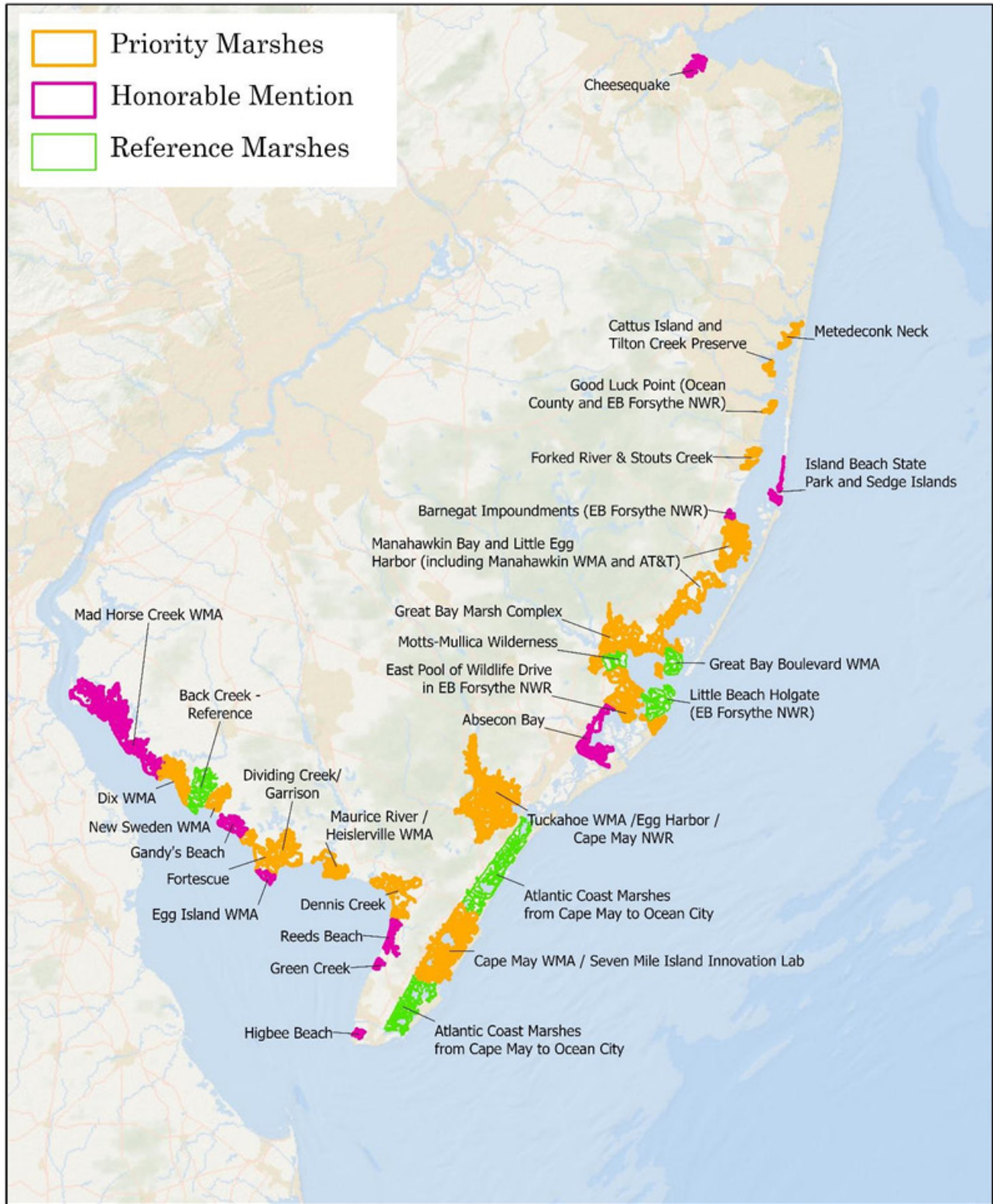
Management of stormwater inputs to reduce water, nutrients, and sediment.

Additional ecological assessment needed

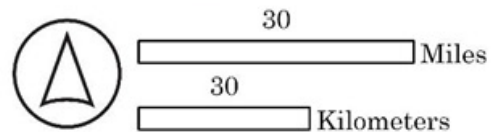
Additional monitoring and site assessment is necessary to determine specific next steps or assess existing restoration efforts at this site.

Priority Marshes

The following marshes have been prioritized for ongoing restoration planning and action to support the Saltmarsh Sparrow in New Jersey.



New Jersey Priority Saltmarsh Sparrow Marshes



Dix WMA – 3229 acres (1307 ha)

Existing Conditions

Galilee salt marsh (Narragansett) is a 138-Much of the marsh platform in this marsh is extensively ditched and is sinking with high likelihood of inundation in the next few years. Back Creek can be used as a reference marsh (see “Reference Marshes”) to set restoration goals locally. The low-lying uplands surrounding this area pose significant migration opportunities to gain high marsh within the next decade. Much of the area is still in agriculture, allowing migration to occur in open fields instead of forest including salt marsh where commercial salt hay harvest still occurs nearby (see Back Creek reference marsh). Many of the agricultural fields are bermed.

Existing Projects

Ducks Unlimited (DU): Partnering with USFWS and State of NJ, and Partnership for the Delaware Estuary (PDE), Conserve Wildlife Foundation of New Jersey to stabilize mudflat edges but does not create/maintain high marsh in Dix WMA. In assessment phase (pre-design), funding needed for design and implementation and monitoring. Best contact: Brian Marsh (brian_marshall@fws.gov), Jim Feaga (jfeaga@duck.org).

Existing Sparrow Data

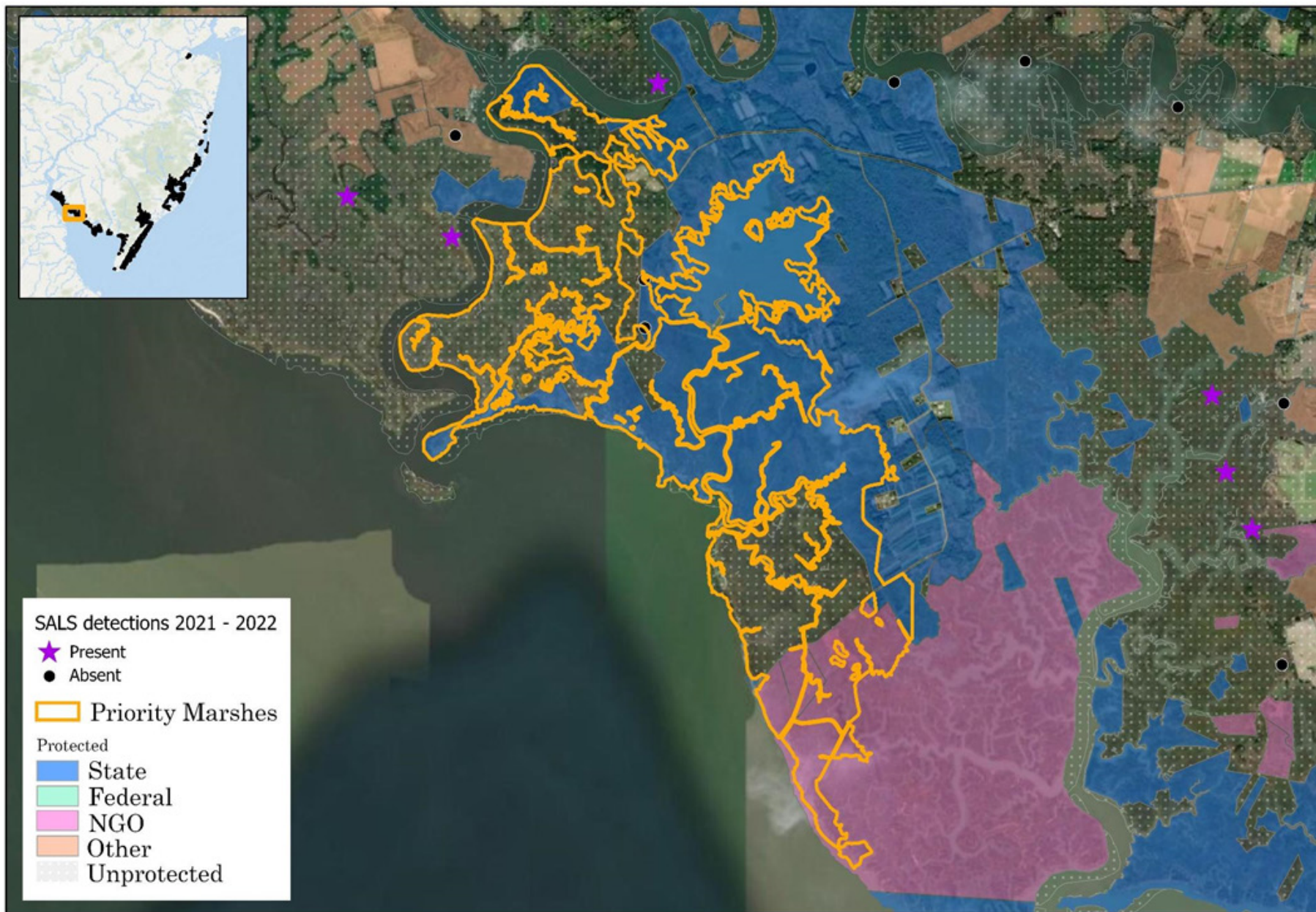
No data available.

Recommended Management / Next Steps To Management Action

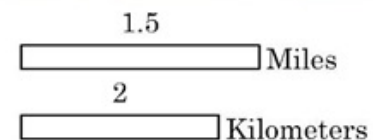
- Assess bird community and hydrology in these marshes.
- Berm removal in private landowner areas.
- Acquire uplands in early successional habitat that provide immediate migration space.
- Sediment placement to maintain marsh area, specifically in Cohansey Cove. Nantuxent Cove has dredge activity nearby and is a possible source of sediment.
- Facilitate migration through ghost forest and *Phragmites* management.

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	Y
Repair hydrology - address ditch plugs	Y
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	Y
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	Y
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	N
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Dix WMA



New Sweden WMA – 1734 acres (702 ha)

Existing Conditions

New Sweden WMA and surrounding area is characterized by large patches of naturally occurring *S. patens* and *D. spicata*. Much of Back Creek can be used as a reference marsh (see “Reference Marshes”) to set restoration goals locally. The low-lying uplands surrounding this area pose significant migration opportunities to gain high marsh within the next decade. Much of the area is still in agriculture (asparagus fields), allowing migration to occur in open fields instead



Large patches of *Spartina patens* can be found in New Sweden WMA. Dr. Mary Gillham, Creative Commons

of forest including salt marsh where commercial salt hay harvest still occurs. Most of the surrounding fields that would be ideal for marsh migration are owned by one private landowner (Shepard family corporation). Perhaps the best opportunity for land acquisition and marsh migration in the state. Many of the agricultural fields are bermed.

Existing Projects

There are no existing projects in this area.

Existing Sparrow Data

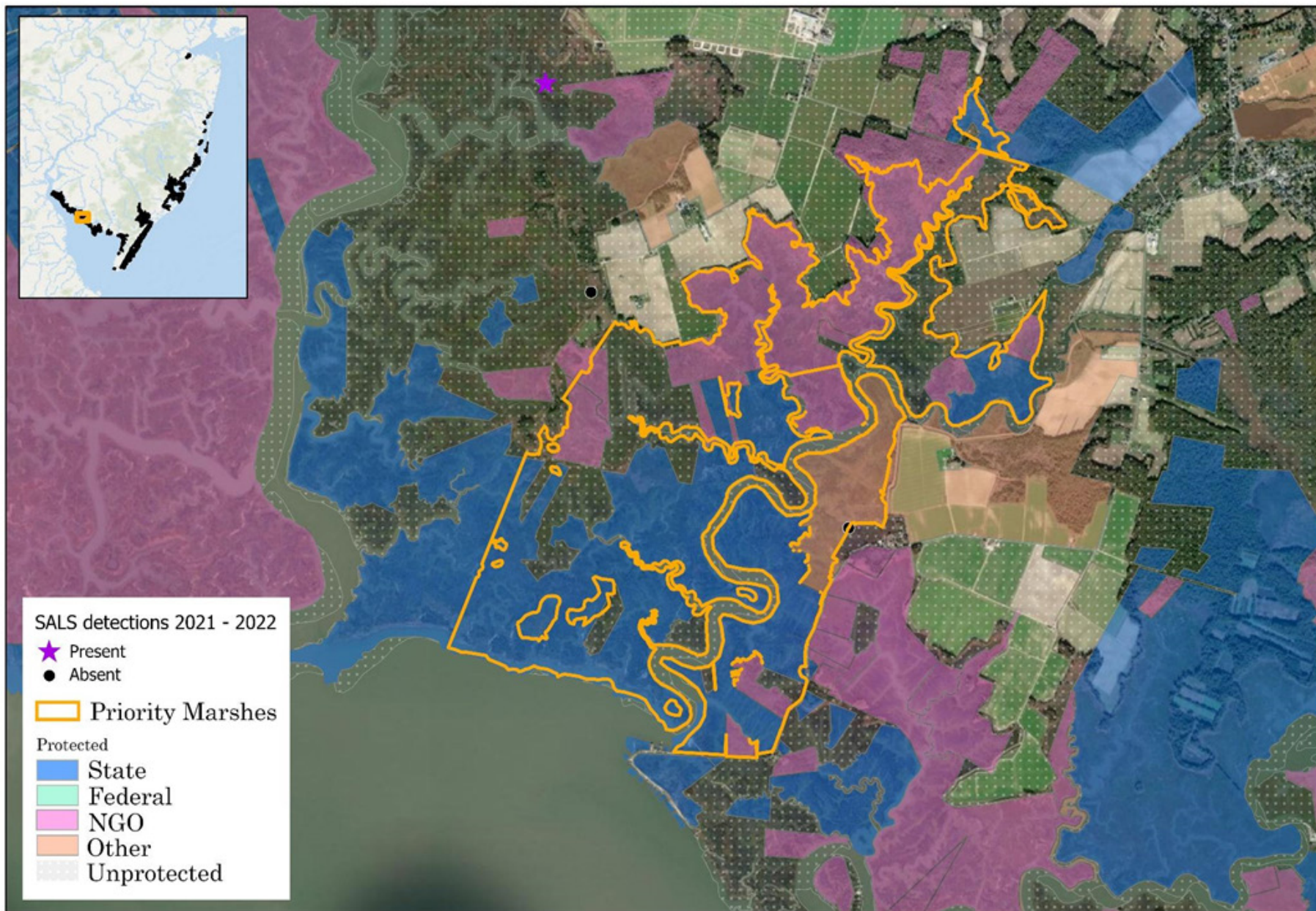
Detected historically (2011-2014) but not in most recent rounds of surveys (2021-2022; SHARP 2023); breeding has not been confirmed.

Recommended Management / Next Steps To Management Action

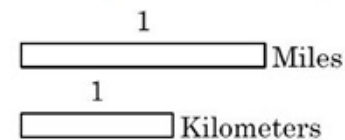
- Assess bird community and hydrology in these marshes.
- Acquire uplands in early successional habitat that provide immediate migration space.
- Berm removal.
- Facilitate migration and *Phragmites* management.

Attributes

Sediment placement	N
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	N
Repair hydrology - address ditch plugs	Y
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	Y
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	Y
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	Y
Stormwater mitigation	Y
Additional ecological assessment needed	Y



New Sweden WMA



Fortescue Creek – 3,773 acres (1,527 ha)

Existing Conditions

This marsh is mostly *S. alterniflora* but has a history of salt hay farming. Some high marsh exists along the upland and bay edge of the marsh. Along the northeastern part of the site there are opportunities for marsh migration, including significant ghost forests. Dredging is limited in this area and is largely directed to beach/shorebird projects.



Ghost forests form as a result of sea level rise. Chesapeake Bay Program

Existing Projects

New Jersey Department of Environmental

Protection: partnered with The Nature Conservancy (TNC) and others to apply dredged material to a section of State-owned marsh on the north side of Fortescue Creek in 2016 and monitored the resulting change to the marsh. Implementation complete, additional funding needed for more monitoring. Best contact: Adrianna Zito-Livingston (azito-livingston@tnc.org)

Note: *Do not place sediment on Beadon's Cove without talking to NJDEP.*

Existing Sparrow Data

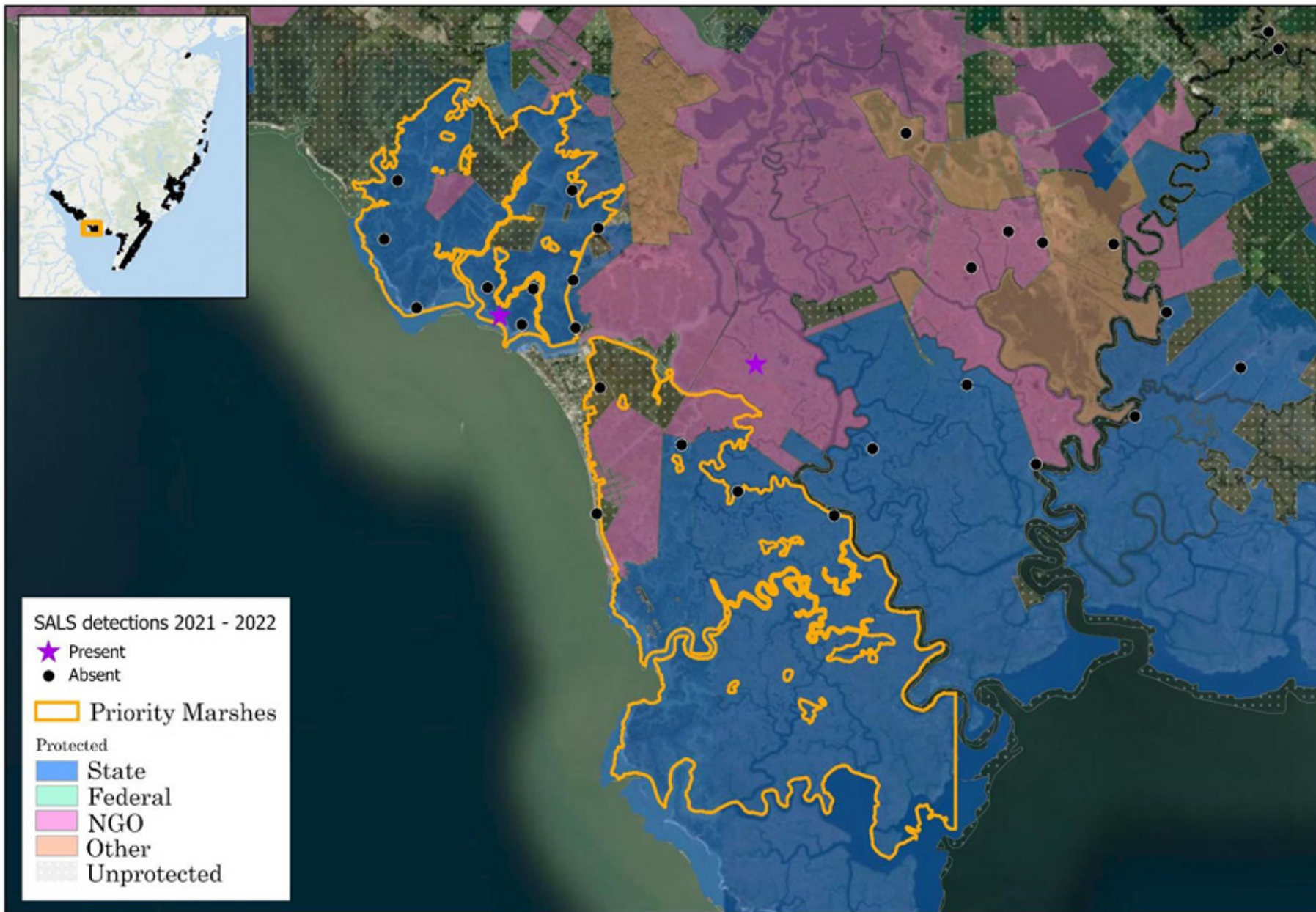
Saltmarsh Sparrow detected (SHARP 2021/2022; SHARP 2023); breeding confirmed (via breeding bird atlas; Walsh et al. 1999).

Recommended Management / Next Steps To Management Action

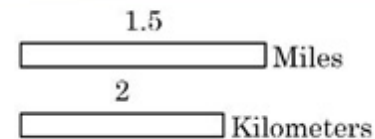
- Facilitate marsh migration in the northwestern part of this area; land ownership is a mix and therefore potentially challenging.
- Repair marsh platform hydrology through runnelling to remove standing water.
- Assess marsh hydrology for potential sediment placement

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	N
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	N
Repair hydrology - berm, embankment, or levee modification	N
Tidal marsh land acquisition / protection	Y
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	Y
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	N
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Fortescue Creek



Maurice River / Heislerville WMA – 2469 acres (999 ha)

Existing Conditions

The complex is made up of primarily low marsh with high marsh hummocks and has significant potential migration space surrounding it. Some high marsh occurs near East Point. Bad erosion on riverbanks.

Existing Projects

The Public Service Electric and Gas Company (PSE&G, owned by Public Service Enterprise Group, or PSEG):

reintroduced tidal flow and opened tidal channels on a 3,000-acre Maurice River Wetland Restoration site. This project is complete and occurred west of this site in the 1990s, including extensive restoration monitoring. Best contact: Ken Straight (PSEG; kenneth.strait@pseg.com)



Salt marsh erosion along the Maurice River. Partnership for Delaware Estuary

Partnership for the Delaware Estuary:

several living shoreline restoration sites exist next to priority marsh along the Maurice River to reduce edge erosion (Matt's Landing). Some have been completed, others are still underway. All projects are funded and will be monitored afterwards (elevation, shellfish populations). Best contact: LeeAnn Haaf (lhaaf@delawareestuary.org)

US Army Corps of Engineers (USACE): sediment placement project in Maurice River and Matt's Landing (using dredged sediments). This is part of the mudflat restoration in the northwest portion of the polygon. Sediment placement occurred January 2024. Funding still needed for post-restoration planting implementation and monitoring. Best contact: Monica Chasten (monica.a.chasten@usace.army.mil)

American Littoral Society: project is permitted, and implementation is partially funded to install ~7,000 feet of rock breakwaters and retaining walls at the mouth of the Maurice River immediately west of this site to protect the community, protect existing salt marsh, enhance accretion of sediment, and to protect potential future sediment placement projects from erosion. Construction began in 2022 and was phased in over several years. Funding still needed for implementation and monitoring (several applications pending). Best contact: Captain Al Modjeski (alek@littoralsociety.org)

American Littoral Society: application of dredged material and a coir log containment area to add approximately 2 feet of elevation to an area of marsh along Thompson's Beach Road. This area was low marsh before the project began and is still dominated by tall-form *S. alterniflora*. This project is complete (~2018), formal monitoring did not happen. Best contact: Captain Al Modjeski (alek@littoralsociety.org)

American Littoral Society: state-permitted project to restore 13 acres immediately west of the ongoing Thompson’s Beach Road marsh restoration project. Project is designed, half-permitted (still requires permits from USACE), and funding does not currently exist for implementation. Best contact: Captain Al Modjeski (alek@littoralsociety.org)

American Littoral Society: Installed Breakwaters along Basket flats: implementation is partially complete but support is needed to add more material. Best contact: Captain Al Modjeski (alek@littoralsociety.org)

Existing Sparrow Data

Saltmarsh Sparrow present and confirmed breeding at this site (SHARP 2021/2022; SHARP 2023).

Recommended Management / Next Steps To Management Action

- Support for planned sediment placement projects (see existing conditions).
- Ongoing support for before/after monitoring on established projects.

Attributes

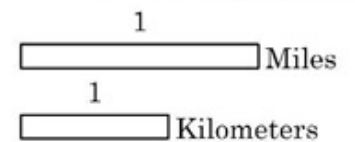
Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	N
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	Y
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	Y
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	Y
Stormwater mitigation	Y
Additional ecological assessment needed	Y



The American Littoral Society promotes the study and conservation of marine life and habitat, protects the coast from harm, and empowers others to do the same. Liz Tymkiw



Maurice River / Heislerville WMA



Great Bay Marsh Complex – 15,607 acres (16,316 ha)

Existing Conditions

This complex is owned by E.B. Forsythe National Wildlife Refuge (NWR) and includes the mouth of the Mullica River and parts of Great Bay and associated tributaries, including Bass River/Ballinger Creek, Nacote Creek, Oyster Creek, and Reed's Bay/Hammock Cove. All these marshes are heavily ditched and are lower elevation than adjacent Reference Marshes (Motts Mullica Wilderness and Great Bay Boulevard WMA; see "Reference Marshes").



Motts Mullica Wilderness Marsh on E.B. Forsythe National Wildlife Refuge. The NJ refuge protects more than 40,000 acres of coastal habitat and tidal wetlands and is a critical state for Saltmarsh Sparrow conservation. Becky Longenecker/USFWS

Existing Projects

There are no existing projects at this site.

Existing Sparrow Data

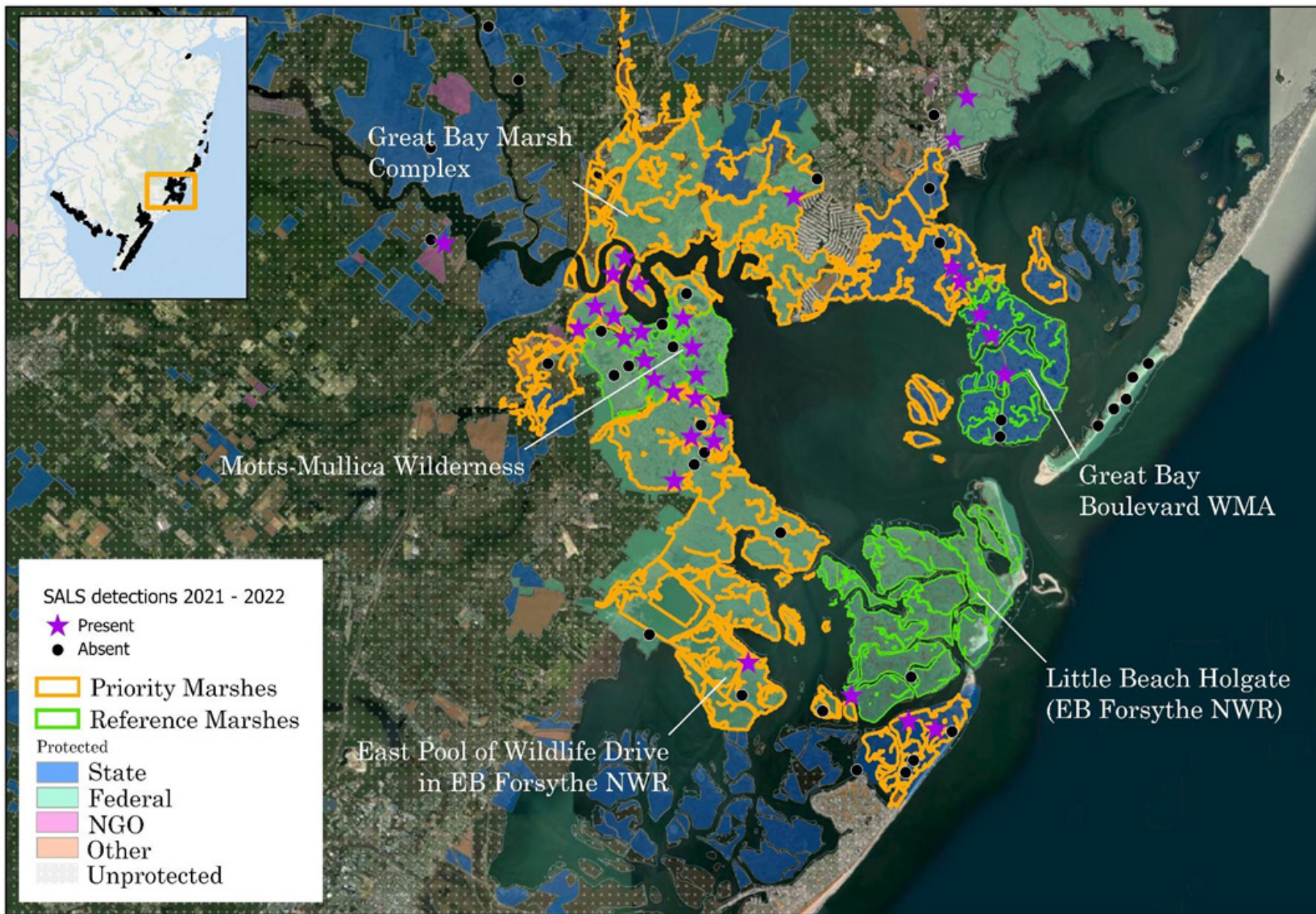
Saltmarsh Sparrow detected (SHARP 2021/2022; SHARP 2023) and confirmed breeding at this site.

Recommended Management / Next Steps To Management Action

- Hydrological assessment and planning for runnelling and ditch remediation.
- Test new low-impact methods to increase elevation.
- Facilitate marsh migration.
- Assess marsh for potential sediment placement and determine sources of dredge material from actively dredged waterways and confined disposal facilities.

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	N
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	N
Tidal marsh land acquisition / protection	Y
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	Y
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	Y
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Great Bay Marsh Complex



4 Miles

5.5 Kilometers

East Pool of Wildlife Drive in EB Forsythe NWR – 1,151 acres (466 ha)

Existing Conditions

This is a section of impounded marsh within E.B. Forsythe NWR formed by a berm that acts as the refuge's primary wildlife drive adjacent to headquarters. Half of the marsh is currently freshwater and is tidally restricted by berms, and the other side is also tidally restricted which has resulted in subsidence. This area is currently a biodiversity hotspot but was historically a tidal marsh.



E.B. Forsythe Wildlife Drive. Bill Butcher/USFWS

Existing Projects

USFWS: Hydrological modeling and estimates for the amount of material needed are complete to restore salt marsh in the 400-acre East Pool.

This project will use existing infrastructure to slowly increase/improve tidal flow to this area and increase resiliency. This project has conceptual designs, but needs support for technical design, permitting, implementation, and post-restoration monitoring. Best contact: Joe Smith (joseph_smith@fws.gov)

USACE: Completed preliminary planning and permitting to place dredge material from the Intracoastal Waterway in East Pool to restore salt marsh. Project timing depends on the availability of dredge material. Support is still needed for implementation and monitoring. Best contact: Joe Smith (joseph_smith@fws.gov)

Existing Sparrow Data

Saltmarsh Sparrow present and confirmed breeding at this site (SHARP 2021/2022; SHARP 2023).

Recommended Management / Next Steps To Management Action

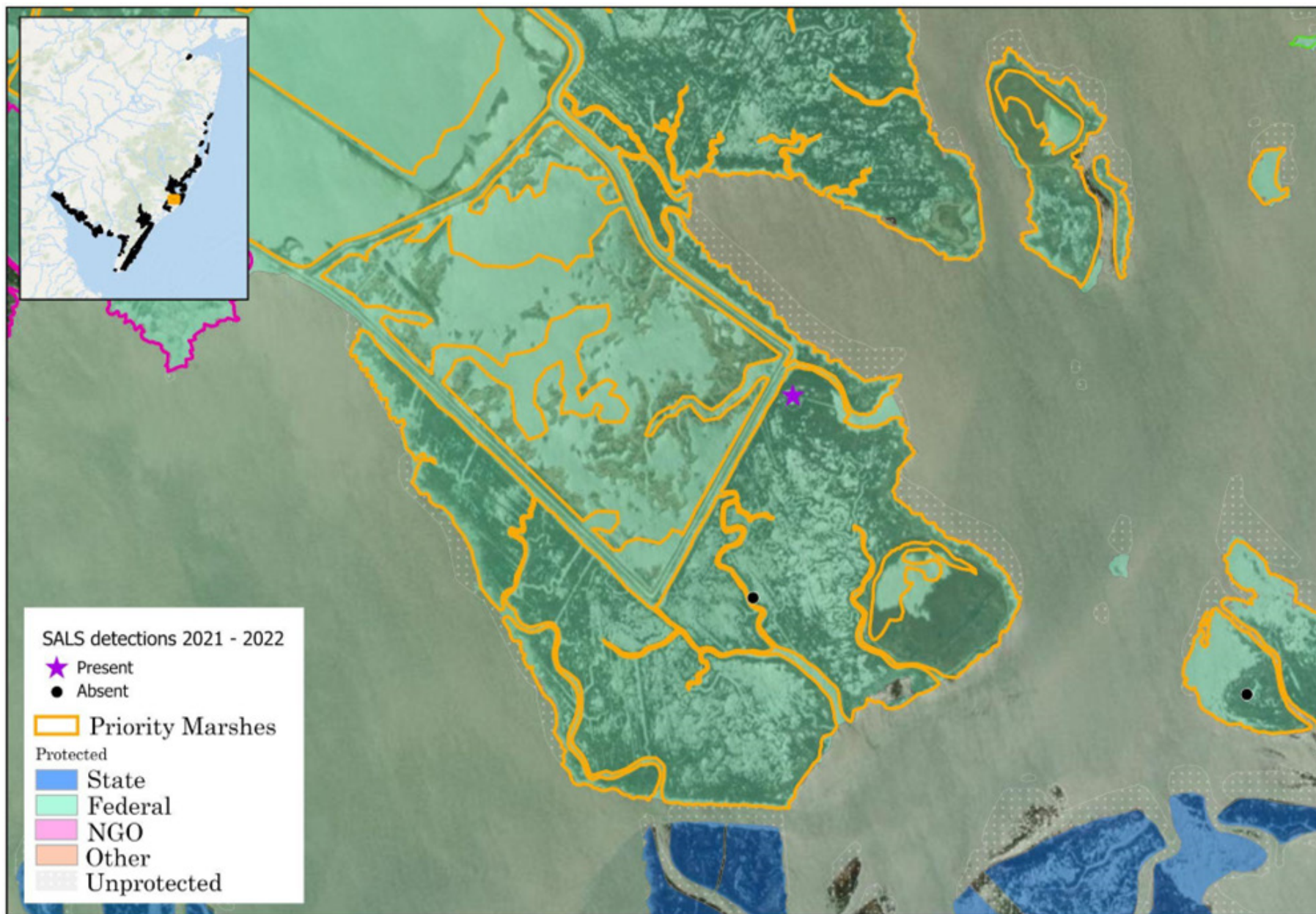
- Restore tidal hydrology to impounded areas.
- Restore hydrology through ditch remediation and sediment placement through dredged sediments.
- Potential for material exists in dredge spoil piles on NWR property that were former deposition sites during creation and maintenance of the Intracoastal Waterway, as well as lagoon municipality interest in providing material.

Attributes

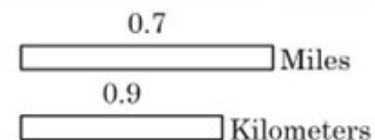
Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	N
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	N
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	N
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	N
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Mixed flocks of shorebirds use the mudflats adjacent to the salt marshes and the wildlife drive at Forsythe. Ray Hennessy



East Pool of Wildlife Drive in EB Forsythe NWR



Manahawkin Bay and Little Egg Harbor (including Manahawkin WMA and AT&T) – 12,246 acres (4,956 ha)

Existing Conditions

This large area of marsh is heavily ditched in many areas with significant internal ponding between ditches. Circular ponds exist in the marsh in some small areas because of past dynamite use. Open Water Marsh Management (OMWM) is present throughout the complex. A large area known as the AT&T tract of E.B. Forsythe NWR also has several roads previously used to maintain a telecommunication pole farm. The roads now act as tidal restrictions. There are also several impounded areas within Manahawkin WMA that were historically tidal marsh but now managed as freshwater. This area presents possibly the best opportunity for restoration to benefit this species.



Little Egg Harbor salt marsh. Peter Miller, Crative Commons

Existing Projects

Ducks Unlimited (DU): working with NJ Fish and Wildlife (NJFW) on several restoration projects in Manahawkin WMA to the western impoundments that are currently open water (total 70 acres) to restore freshwater marsh from open water by eventually replacing water control structures. The eventual goal is to restore tidal flow. Baseline data collection is already funded through a North American Wetland Conservation Act grant. Best contact: Jim Feaga (jfeaga@ducks.org)

Ducks Unlimited (DU): Working with NJ Department of Fisheries and Wildlife, USFWS, and other partners to investigate the possibility of breaching the dykes that surround the outer impoundments in this area. The Impoundments on the easternmost side of the WMA are *S. patens* marsh with significant root zone collapse resulting in gradual conversion to open water. The marsh may still have enough elevation capital to effectively drain if the dykes are breached to restore the existing high marsh. Best contact: Jim Feaga (jfeaga@ducks.org)

USFWS: Working with the state of NJ and Ducks Unlimited on conceptual designs for runnelling, ditch remediation, and tidal restoration throughout this area, particularly at the AT&T Tract and Popular Point areas of Edwin B. Forsythe NWR. Surveying and hydrological monitoring are underway. Conceptual plans are complete and permitting is underway for the shoreline and marsh Popular Point project. Support is still needed for implementation and monitoring. Best contact: Joe Smith (joseph_smith@fws.gov), Kaity Ripple (kaitlyn_ripple@fws.gov)

NJ Department of Transportation: Working with USFWS to plan and permit a project to use dredge material to restore high marsh at Poplar Point specifically for the Saltmarsh Sparrow. Funded through Regional Greenhouse Gas Initiative (ReGGI) and Stafford township, permits are under review, support is still needed for post-restoration monitoring. Best contact: Joe Smith (joseph_smith@fws.gov)

Existing Sparrow Data

Saltmarsh Sparrow present and confirmed breeding at this site (SHARP 2021/2022; SHARP 2023).

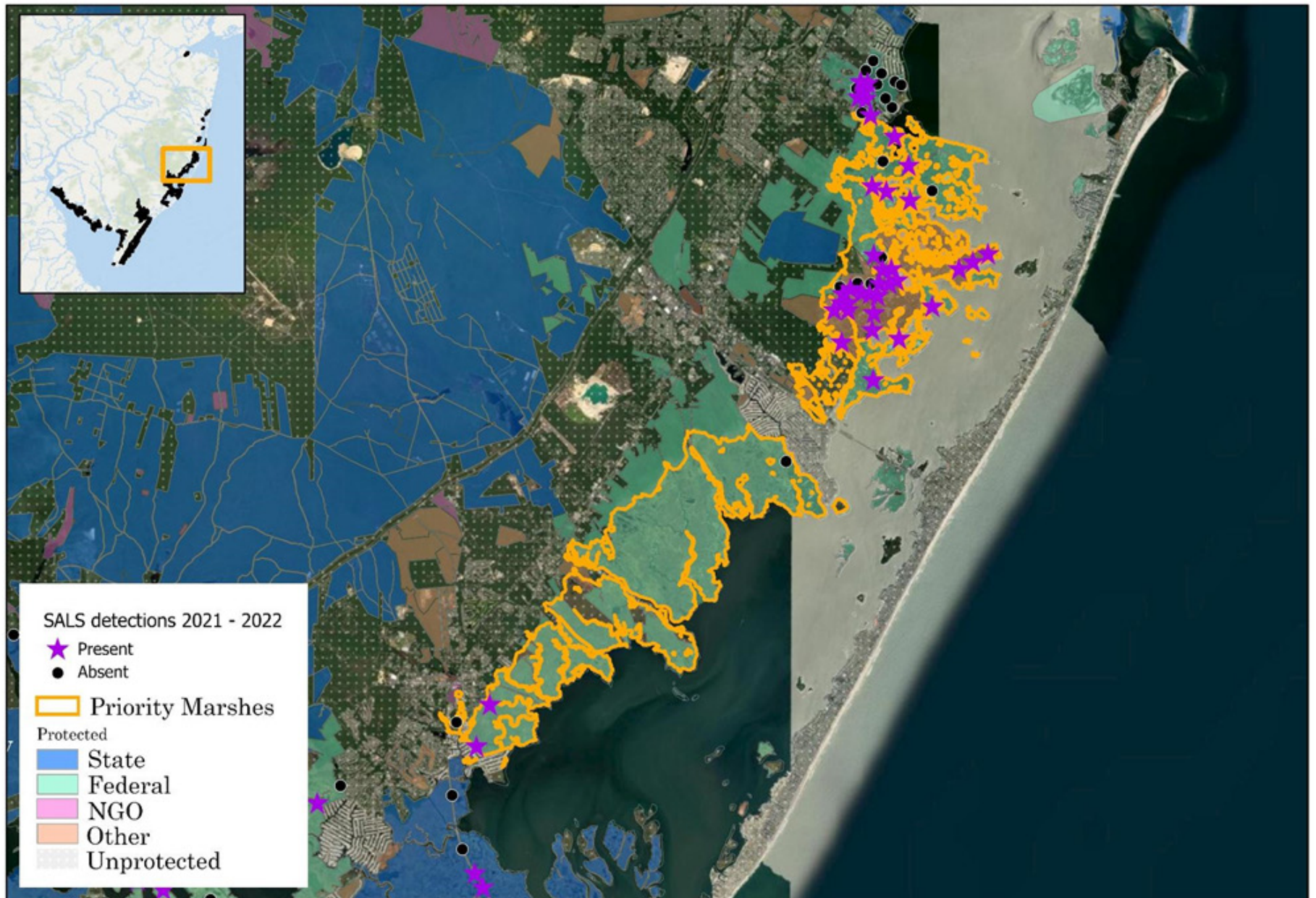
Recommended Management / Next Steps To Management Action

- Hydrological work through runnelling, ditch remediation, and upkeep.
- Reduction of tidal restrictions throughout the area.
- Construction of new primary tidal channels.
- Monitoring for proof of concept for marsh restoration techniques proposed for this site that have potential for transferability to other marshes in New Jersey.
- Assessment for potential sediment placement.
- Removal of utility poles to encourage Saltmarsh Sparrow use (AT&T site only).

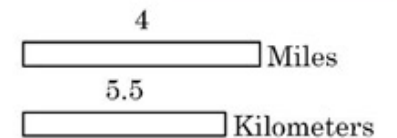
Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	Y
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	N
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	N
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	Y
Stormwater mitigation	Y
Additional ecological assessment needed	Y





Manahawkin Bay and Little Egg Harbor
(including Manahawkin WMA and AT&T)



Forked River & Stouts Creek – 918 acres (372 ha)

Existing Conditions

This marsh parcel is lightly ditched and affected by OMWM in much of the acreage, but there is significant room for marsh migration in the surrounding area. Shoreline erosion is a problem through high wave action. Monitoring of marsh hydrology is already underway at this location by E.B. Forsythe NWR.

Existing Projects

USFWS: Preliminary elevation assessment is complete in Stout's Creek area (currently open water) to reconstruct marsh at this location. Historical water level and bird data are available. Design and permitting are underway but support is still needed for implementation, monitoring, and continued adaptive management. Best contact: Joe Smith (joseph_smith@fws.gov)



Refuge biologist Joe Smith explores a marsh in EB Forsythe National Wildlife Refuge. USFWS

Existing Sparrow Data

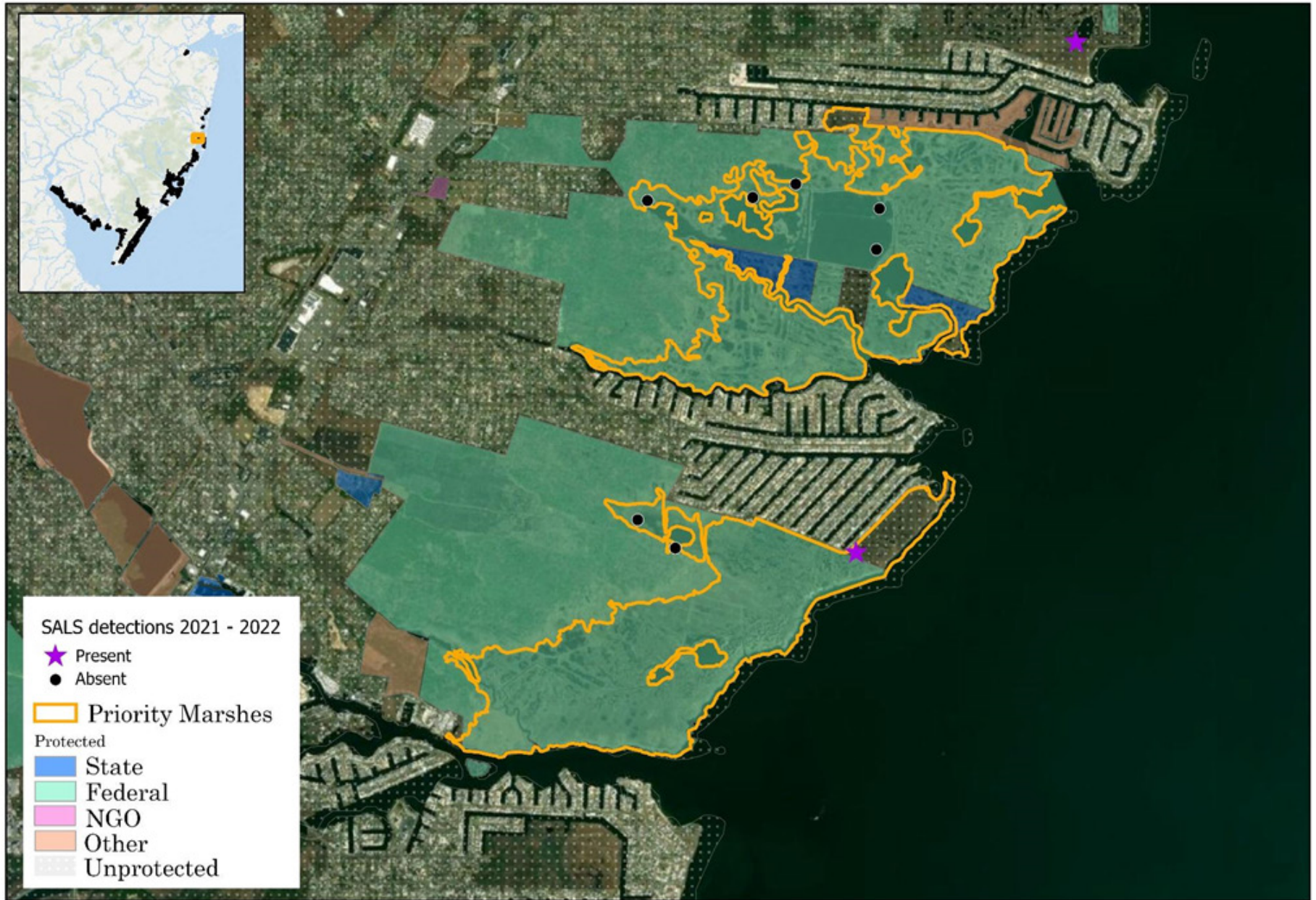
Saltmarsh Sparrow detected (SHARP 2021/2022; SHARP 2023) and breeding confirmed at this site (via breeding bird atlas; Walsh 1999).

Recommended Management / Next Steps To Management Action

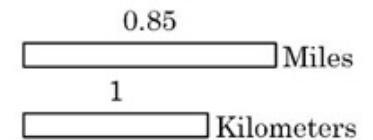
- Ditch remediation (south of the existing OMWM)
- Protection of surrounding land to facilitate marsh migration
- Sediment placement in formerly impounded areas
- Reduction of wake / wave energy through living shoreline along Forked River.

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	Y
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	N
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	N
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	Y
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Forked River & Stouts Creek



Good Luck Point (Ocean County and EB Forsythe NWR) – 395 acres (160 ha)

Existing Conditions

This marsh is heavily ditched and has significant internal ponding. The portion of the site west of Bayview Avenue is tidally restricted. Over the past 30 years this site has gone from almost completely vegetated to majority unvegetated due to a combination of past management practices and subsequent waterlogging. This is a microtidal site due to a combination of local bathymetry and tidal restrictions. Despite these challenges, this site has Black Rail consistently using the area.

Existing Projects

USFWS: Sediment placement project currently permitted using dredge material to fill open water areas and some ditches. There is more area permitted than was restored (occurred 2020). The refuge is looking for more material to complete the project. Placement of compost in mounds followed by planting is also occurring here (completed spring 2024). Support still needed for monitoring at this site and continued implementation with additional compost / sediment. Best contact: Joe Smith (joseph.smith@fws.gov)



Good Luck Point restoration site. Liz Tymkiw

Existing Sparrow Data

Saltmarsh Sparrow present at high densities (SHARP 2021/2022; SHARP 2023) and confirmed breeding at this site (via breeding bird atlas; Walsh 1999).

Recommended Management / Next Steps To Management Action

- Expand currently permitted project for sediment placement to fully permitted footprint extent.
- Protection of surrounding area to facilitate marsh migration.
- Investigate long-term solutions to tidal restrictions created by Bayview Avenue.

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	Y
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	N
Tidal marsh land acquisition / protection	N
Land acquisition / protection for marsh migration	N
Facilitated marsh migration	N
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	Y
Wildlife herbivory mitigation	N
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Good Luck Point (Ocean County and EB Forsythe NWR)

Cattus Island and Tilton Creek Preserve – 383 acres (155 ha)

Existing Conditions

This marsh has high wave exposure from fetch from multiple directions. Marsh edge is eroding, and storms push water up onto the marsh resulting in breakdown of the marsh platform. In some areas dense ditching, OMWM, and sedimentation have combined to negatively affect the marsh hydrology. Ownership is county park, NJ natural lands trust (quasi-state).

Existing Projects

Ocean County: Partnering with Stevens Institute, Ducks Unlimited, and USFWS to plan shoreline protection tactics along parts of northern Cattus Island using Clean Water Act Section 319 funding to protect the shoreline using hard materials. USFWS and partners will be monitoring the marsh platform, its response to the shoreline project, and are developing further marsh-specific restoration projects involving runnels, ditch remediation, and potential sediment placement. This same partner group is pursuing NFWF National Coastal Resilience funding for extending the living shoreline tactics along the southern part of Cattus Island and (eventually) the Tilton Creek area that will stabilize the shoreline and further reduce impacts to the marsh platform. 10% concept designs exist for shoreline protection, sediment placement 10% design is funded through USFWS Coastal Programs. This group is working with NJ Department of Transportation and local municipalities to fund the rest of the design for sediment placement; however, funding is needed for the rest of the design, implementation needed for everything. Best contact: Jim Feaga (jfeaga@ducks.org), Danielle McCullough (danielle_mccullough@fws.gov)

Existing Sparrow Data

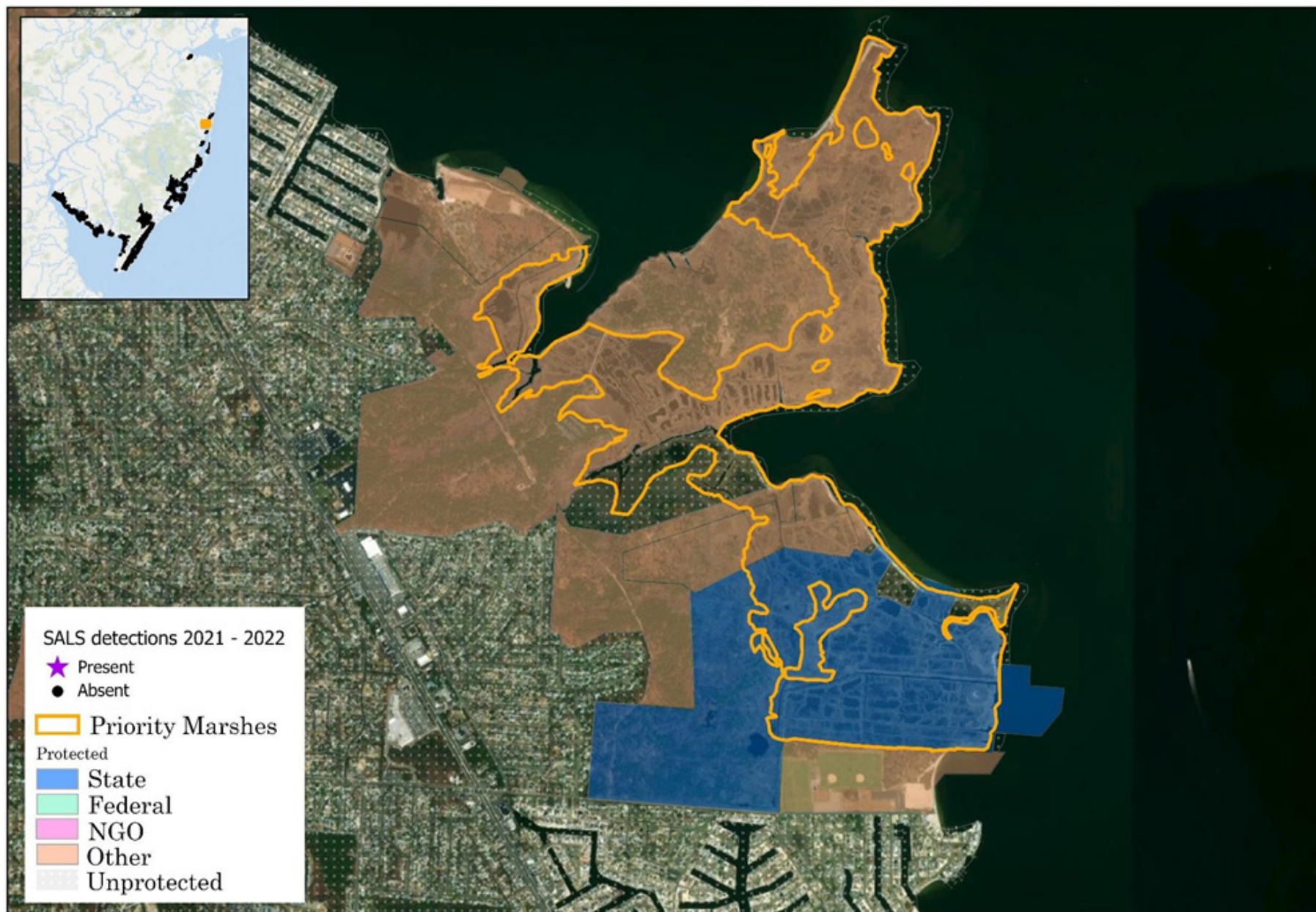
Saltmarsh Sparrow detected (eBird 2021); breeding has not been confirmed.

Recommended Management / Next Steps To Management Action

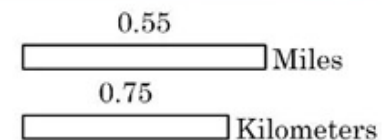
- Assessment and mitigation of OMWM ponds.
- Monitoring as shoreline projects proceed.
- Survey area for Saltmarsh Sparrows and other tidal marsh birds.

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	Y
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	N
Land acquisition / protection for marsh migration	N
Facilitated marsh migration	N
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	Y
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Cattus Island and Tilton Creek Preserve



Metedeconk Neck – 763 acres (309 ha)

Existing Conditions

This marsh is historically brackish tidal (pre-1930s) and now has some saline influence. There is ample migration space in the surrounding area. The tidal system is sediment-starved, and the marsh platform is heavily ditched. This area is microtidal (~0.1 ft) making the marshes less resilient. Dredging frequently occurs in this area which could create sediment placement opportunities through beneficial use of dredged material.



Seaside Sparrows also benefit from restoration efforts in tidal marshes. Ray Hennessy

Existing Projects

USFWS: Two permitted projects through EB Forsythe NWR (Brick A, 129 acres and Brick B, 143 acres) that have dredge sources identified through Brick township. Design and permitting are complete and implementation is funded. Support is still needed for long-term monitoring and adaptive management into the future. Best contact: Joe Smith (joseph_smith@fws.gov)

Existing Sparrow Data

Saltmarsh Sparrow detected at this site (SHARP 2021/2022; SHARP 2023); breeding has not been confirmed.

Recommended Management / Next Steps To Management Action

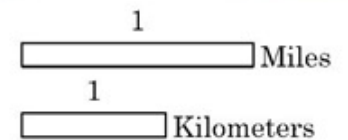
- Identify material source and support for permitted sediment placement projects.
- Assess marsh and ditch elevations to identify restoration opportunities for runnelling or other hydrological restoration.

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	N
Repair hydrology - tidal restriction mitigation	N
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	N
Land acquisition / protection for marsh migration	N
Facilitated marsh migration	N
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	N
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Metedeconk Neck



Tuckahoe WMA / Egg Harbor / Cape May NWR – 15,693 acres (6,351 ha)

Existing Conditions

This marsh complex is New Jersey’s largest contiguous tract of ditched marsh. The site is dominated by *Phragmites* on the western edge. Past projects have focused on management of the impoundments on the southwest side of the site. Surrounding area is protected by state, county, and federal ownership. This area has lower rates of erosion and some ditches seem to be slowly healing themselves, so this area is a lower priority within the priority marshes identified in this document.

Existing Projects

Ducks Unlimited: partnered with NJFW on recently completed marsh restoration in several impoundments (some restored to fresh, some to tidal, completed in 2016) on the southwest side of the site primarily for waterfowl management. State is still monitoring the site for water level and salinity. Best contact: Jim Feaga (jfeaga@ducks.org), Tyler Kinney (Tyler.Kinney@dep.nj.gov)

USFWS: Working with Ducks Unlimited to investigate this area for potential implementation of runnelling and ditch remediation to restore hydrology on the marsh platform. Support needed for all phases of the project. Best contact: Kaity Ripple (kaitlyn_ripple@fws.gov)

Existing Sparrow Data

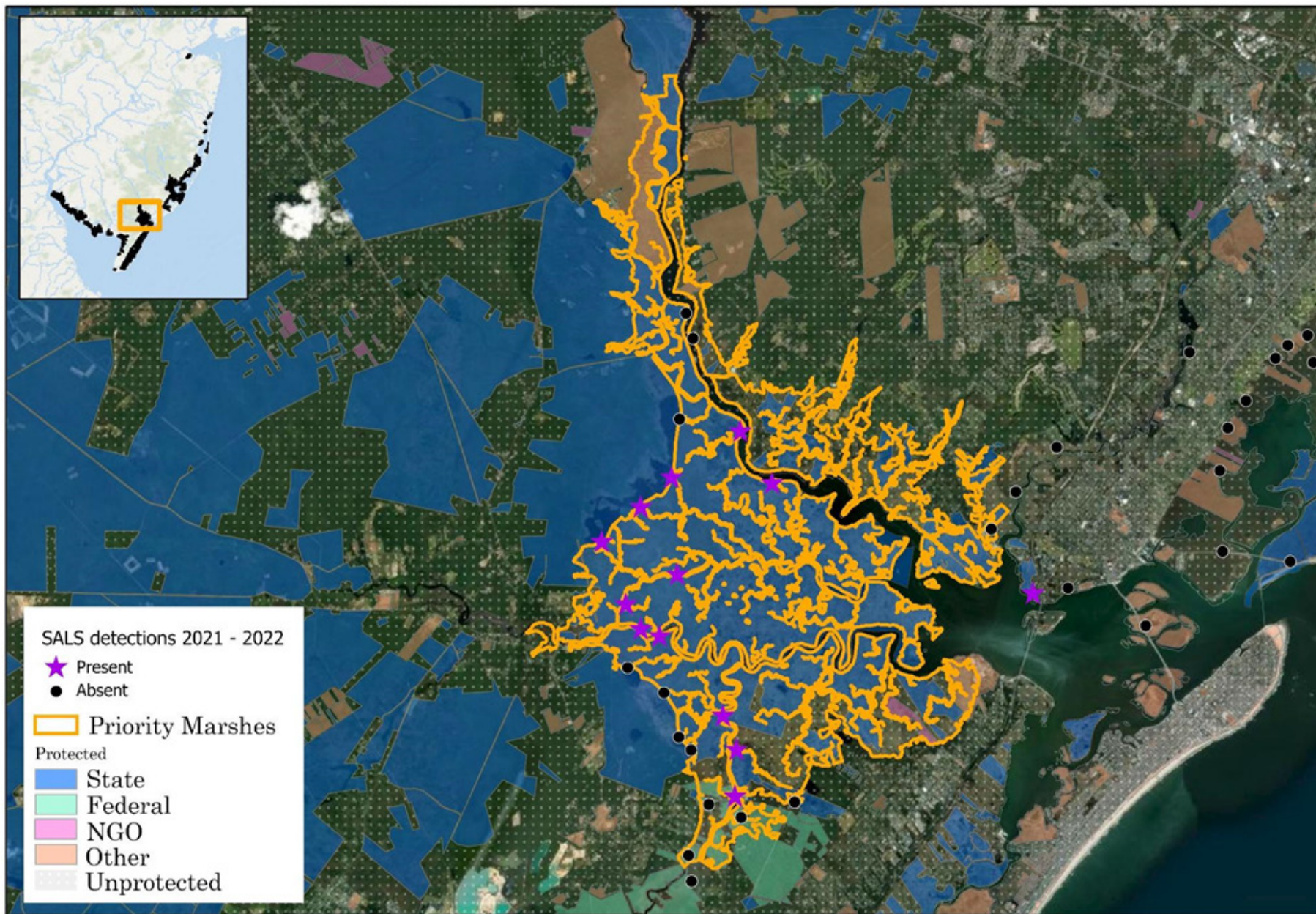
Saltmarsh Sparrow detected at this site (SHARP 2021/2022; SHARP 2023) and breeding has been confirmed (via breeding bird atlas; Walsh 1999).

Recommended Management / Next Steps To Management Action

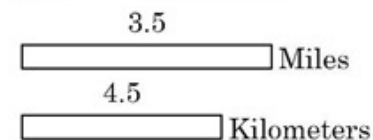
- Marsh hydrological assessment necessary (including elevation assessment) to determine next steps including marsh platform hydrological repair, sediment placement, etc.

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	N
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	N
Tidal marsh land acquisition / protection	N
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	Y
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	Y
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Tuckahoe WMA / Egg Harbor
/ Cape May NWR



Cape May WMA / Seven Mile Island Innovation Lab – 10,260 acres (4,152 ha)

Existing Conditions

This marsh hosts the Seven Mile Island Innovation Lab, a collaboration between The Wetlands Institute, New Jersey Department of Environmental Protection, Army Corps of Engineers, and several other partners to find ways to beneficially and efficiently use dredge material to enhance habitat. The Intracoastal Waterway (ICW) bisects the marsh and creates sources of dredge material for sediment placement projects. Marsh erosion is occurring along the edges of the marsh platform, and internal ponds occur throughout.

Existing Projects

There are several small-scale sites (~100 acres total) in various phases of sediment placement using dredge material, all led by the Innovation Lab, which include a high marsh component and multi-year monitoring efforts. There are several disposal sites where dredge material was placed historically; the outer perimeters of these sites support the vast majority of the existing *S. patens* in the complex. The majority of the Innovation Lab high marsh is dominated by short-form *S. alterniflora*. Support is still needed for additional beneficial use of dredged sediment projects, including design, permitting, implementation, and pre- and post- implementation monitoring. Best contact: Lenore Tedesco (ltedesco@wetlandsinstitute.org), Lisa Ferguson (lferguson@wetlandsinstitute.org)

Existing Sparrow Data

Saltmarsh Sparrow detected at this site (eBird 2020; Wetlands Institute 2019, 2021-2023); breeding confirmed via breeding bird atlas (Walsh 1999) and The Wetlands Institute (2019, 2021-2023).

Recommended Management / Next Steps To Management Action

- Continued experimentation using dredge material from the Intercoastal waterway to create and enhance habitat.
- Coordinated long-term monitoring at all sites.
- Address marsh edge erosion throughout the site.
- There is opportunity to further restore confined disposal facilities and historical dredge placement sites that retain high marsh characteristics for adding additional habitat acreage. The feasibility of this is limited but there is opportunity given the relative scarcity of high marsh biological communities outside of these areas in the Cape May region



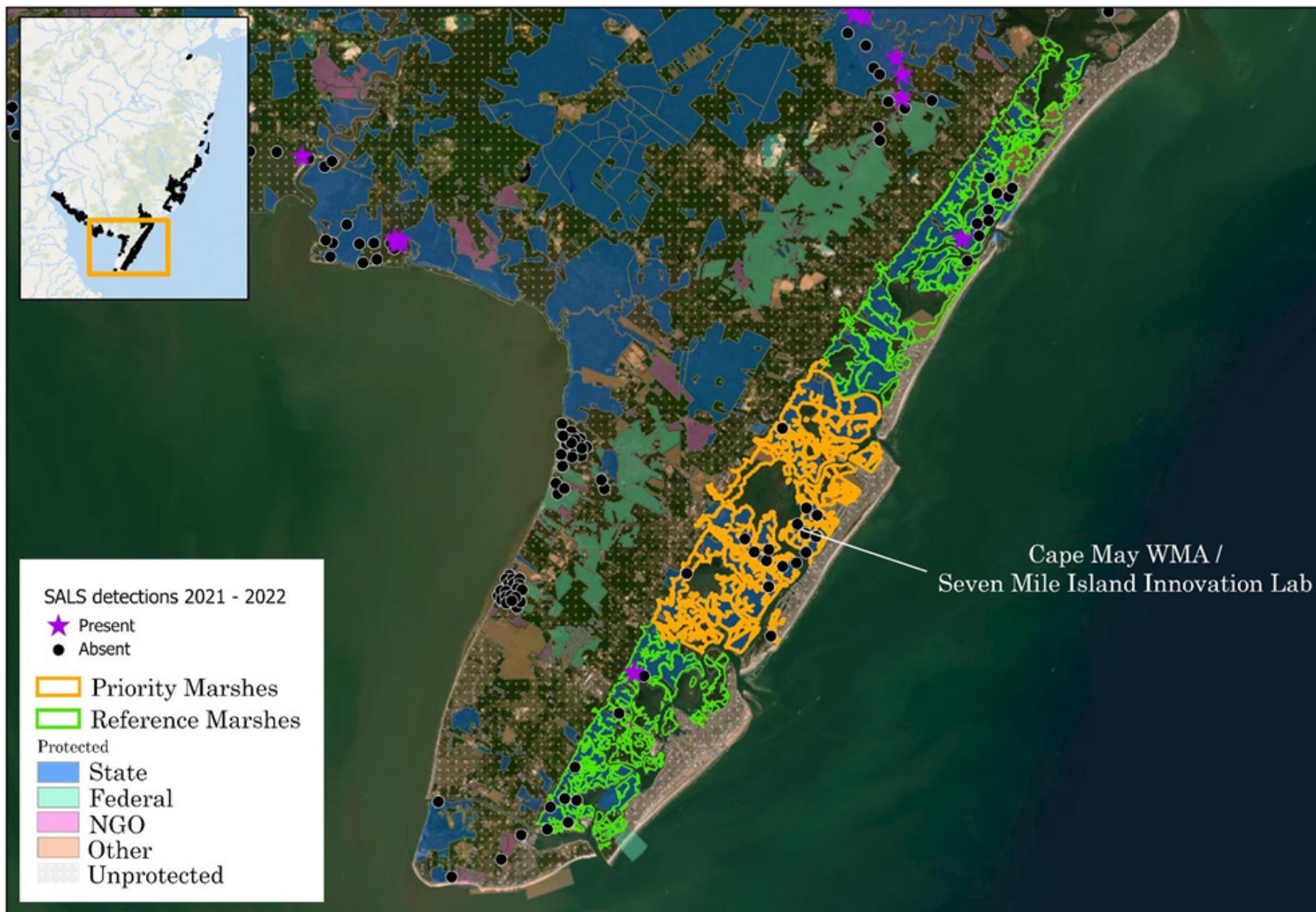
An example of sediment placement to restore a marsh. Dave Harp

.Attributes

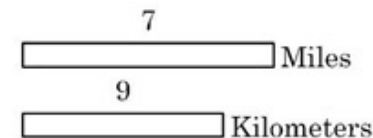
Sediment placement	Y
Repair hydrology - runnelling / channel creation	N
Repair hydrology - tidal restriction mitigation	N
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	N
Repair hydrology - berm, embankment, or levee modification	N
Tidal marsh land acquisition / protection	N
Land acquisition / protection for marsh migration	N
Facilitated marsh migration	Y
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	N
Stormwater mitigation	Y
Additional ecological assessment needed	Y



The sun sets over a New Jersey salt marsh. Susan Rogozinski/Partnership for Delaware Estuary



Cape May WMA / Seven Mile Island Innovation Lab



Dennis Creek WMA – 5,547 acres (2,245 ha)

Existing Conditions

This marsh is mostly owned by the state and managed as Dennis Creek WMA, however there is a privately owned sliver of land included as well. highly degraded, but some patches of high marsh remain. The site varies significantly in salinity, exposure to tides, degree of degradation, and vegetative cover, and experiences frequent extreme high tides due to wind patterns which increase the instability of the marsh platform. Migration space exists along the northern edge. Much of it is ghost cedar forest with subsided root zones and deep standing water, making high marsh opportunities through migration less likely in these areas. Despite these challenges, this site is one of the last reliable locations for eastern Black Rail, another tidal marsh specialist, in New Jersey, making this marsh a state priority for restoration.

Existing Projects

Evergreen Environmental Mitigation

Bank: includes approximately 35 acres of tidal and palustrine scrub-shrub wetlands near Stipson's Island at the western edge of this site. Best contact: Developed a 35-acre tidal and freshwater mitigation bank near Stipson's Island at the western edge of this site through a joint MBRT-Council process. Project was completed in 2007.

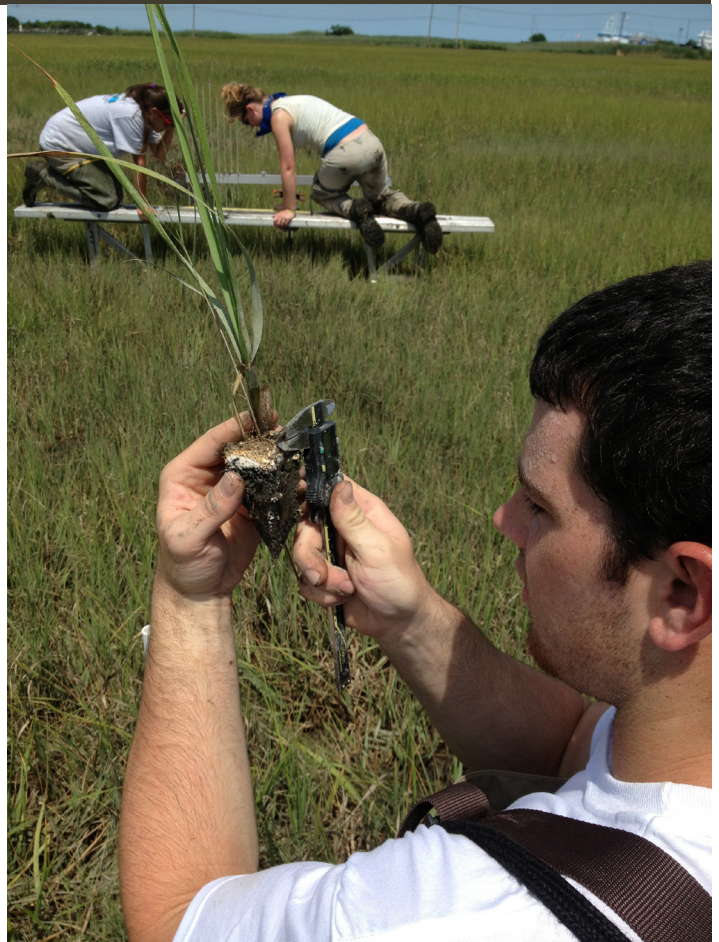
Ducks Unlimited: Partnering with USFWS on mudflat restoration immediately to the south of Dennis creek to restore this open water area and stabilize the mudflat to prevent further erosion. Most of the mudflat is privately owned. Support is still needed for all aspects of the project. Best contact: Kaity Ripple (kaitlyn_ripple@fws.gov)

Existing Sparrow Data

Saltmarsh Sparrow detected (eBird 2020); breeding has not been confirmed.

Recommended Management / Next Steps To Management Action

- Hydrological assessment of Dennis Creek Wildlife Management Area is needed to locate those areas that would benefit high marsh from restoration of marsh hydrology or facilitated marsh migration.
- *Phragmites* mitigation around marsh edge.



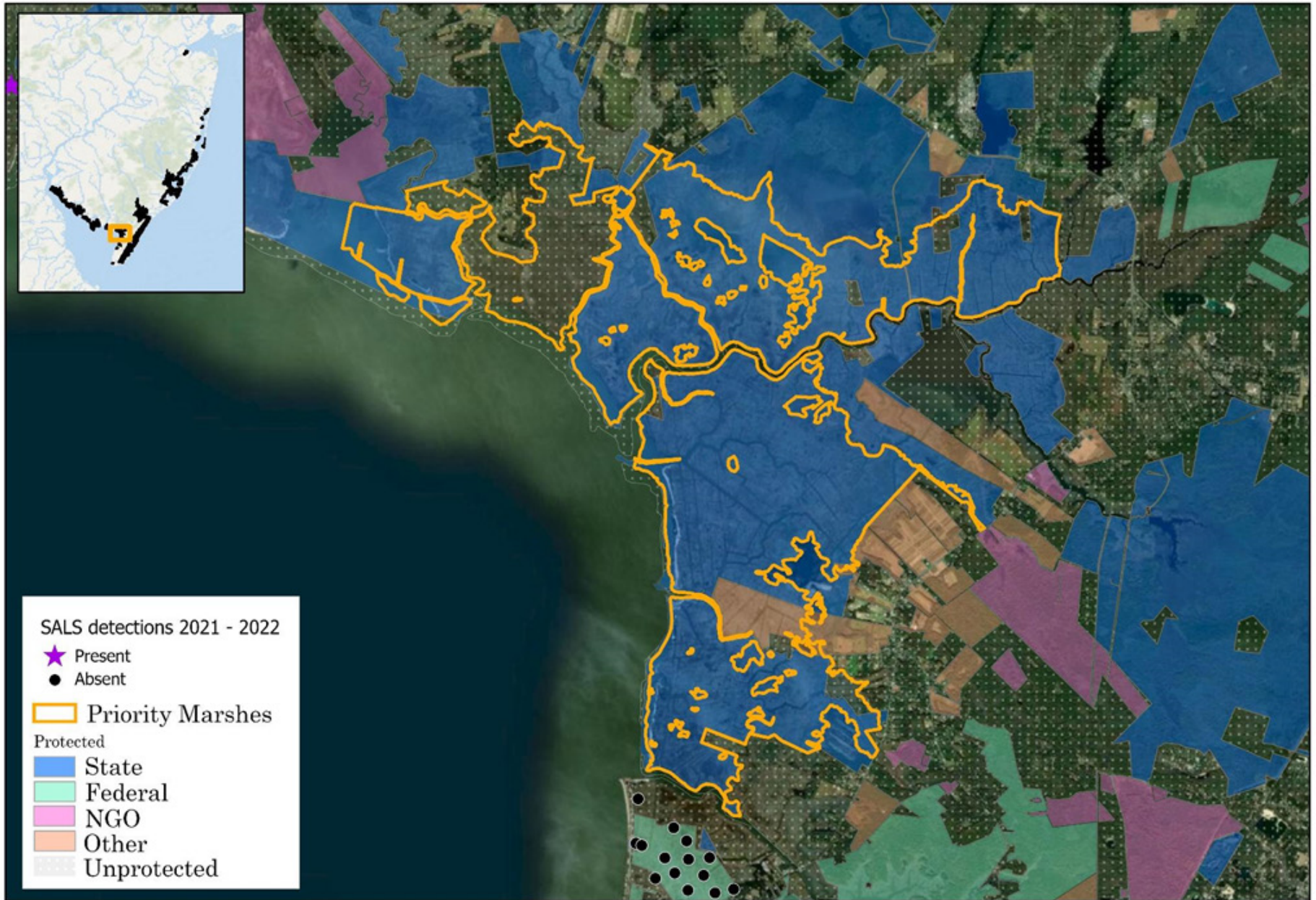
A marsh biologist measures the roots of Spartina alterniflora. Partnership for Delaware Estuary

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	Y
Repair hydrology - tidal restriction mitigation	Y
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	Y
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	Y
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	Y
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	Y
Living shoreline development	N
Wildlife herbivory mitigation	Y
Stormwater mitigation	N
Additional ecological assessment needed	Y



Dennis Creek is one of the last reliable locations for Eastern Black Rail in New Jersey. Blake Matheson, McCaully Library



Dennis Creek



1.5 Miles

2 Kilometers

Dividing Creek – 4,753 acres (1,923 ha)

Existing Conditions

The northern part of Dividing Creek is bordered by areas of high and low marsh. At its center is the Garrison Tract (formerly Garrison Salt Hay Farm) which has several restoration projects underway. Most of these are working toward a goal of low marsh. Most of the tract was actively farmed *S. patens* marsh until the early 2000s. Dykes gradually breached, increasing inundation, culminating in complete breaches during Hurricane Sandy in 2012. The area was then acquired through the Emergency Watershed Protection Program by the Natural Resources Conservation Service and the ownership transferred to Natural Lands.

Existing Projects

USFWS: Detailed imaging and elevation survey via Unmanned Aircraft System (UAS/drone) of the Garrison Tract to inform restoration designs in 2021. Best contact: Theo Diehl (diehl.theo@gmail.com)

USFWS: Permitting underway for a pilot restoration project to mitigate wave attenuation through testing of several devices. Support is still needed for full design, implementation, and monitoring. Best contact: Brian Marsh (brian_marsh@fws.gov)

Existing Sparrow Data

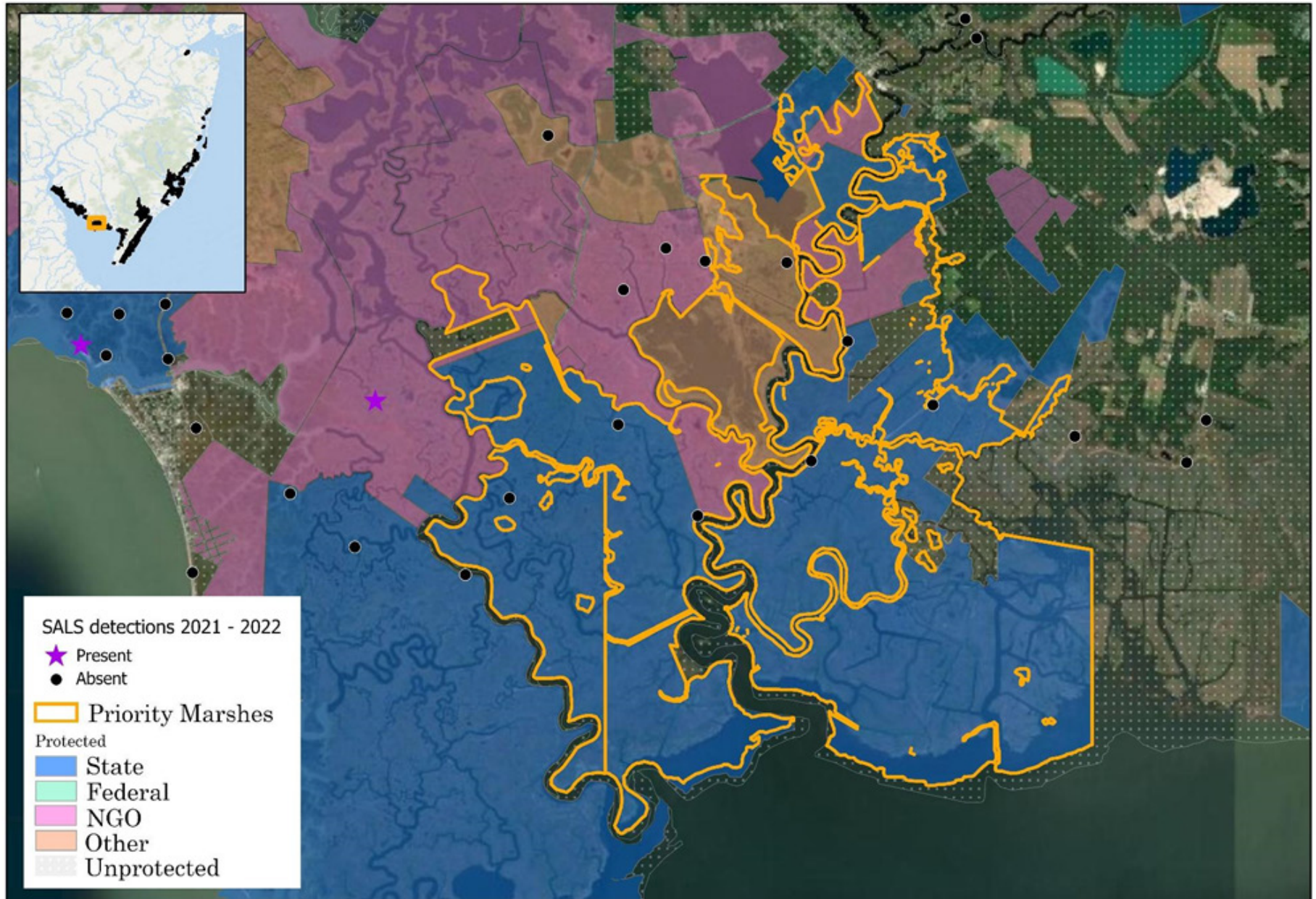
Saltmarsh Sparrow present; breeding has not been confirmed.

Recommended Management / Next Steps To Management Action

- Improve drainage in the *S. patens* marsh along the northwestern part of the Garrison Tract through runnelling and/or culvert replacement. USFWS and Ducks Unlimited are both considering options for this area. .

Attributes

Sediment placement	Y
Repair hydrology - runnelling / channel creation	N
Repair hydrology - tidal restriction mitigation	N
Repair hydrology - address ditch plugs	N
Repair hydrology - ditch remediation	N
Repair hydrology - berm, embankment, or levee modification	Y
Tidal marsh land acquisition / protection	Y
Land acquisition / protection for marsh migration	Y
Facilitated marsh migration	Y
Invasive plant species mitigation (<i>Phragmites australis</i> , etc.)	N
Living shoreline development	N
Wildlife herbivory mitigation	N
Stormwater mitigation	Y
Additional ecological assessment needed	Y



Dividing Creek



1 Miles

1.5 Kilometers

Reference Marshes

These marshes are relatively undisturbed and all adjacent in some way to the priority areas described in this document. They can act as reference marshes for local restoration efforts in the state. Long-term preservation of these areas and the open space around them to facilitate long-term marsh migration is important, but no immediate restoration action on the marsh platform is currently appropriate.

Motts Mullica Wilderness 1997 acres (808 ha) / Little Beach Holgate (EB Forsythe NWR) 3938 acres (1594 ha) and Great Bay Boulevard WMA 2265 acres (917 ha) (See Priority Great Bay map)

This complex of marshes (not including the ditched marshes in Great Bay, listed above) presents one of the most contiguous patches of unditched marsh in New Jersey. This is an example of relatively healthy hydrology for a large marsh complex and can act as a reference for restoration efforts both within Great Bay and other areas in the state. The Motts Mullica Wilderness has extensive areas of *S. patens* and, unlike other regions, has experienced minimal loss of *S. patens* coverage over the past few decades (~1970). Great Bay Boulevard high marsh is dominated by short-form *S. alterniflora*; Saltmarsh Sparrows are present and confirmed breeding at this site.

Atlantic coast marshes from Cape May to Ocean City (see Priority Cape May WMA / Seven Mile Innovation Lab map) – 14,908 acres (6,033 ha)

Most of the marshes in this region are unditched, representing one of the largest tracts of unditched marsh in the northeast (~13,000 acres). This complex is dominated by short-form *S. alterniflora* high marsh. Ditched marsh surrounds the core unditched area at upland and barrier island margins while confined disposal and former unconfined dredge disposal areas occur along dredged waterways. This is an example of relatively healthy hydrology for a large marsh complex and can act as a reference for restoration efforts. Despite minimal historic or present-day coverage of *S. patens*, Saltmarsh sparrows are widespread and confirmed breeding at this site.

Back Creek – 5,264 acres (2,130 ha)

At the southern end of the Back Creek complex is ~1,000 acres of unditched marsh that supports high densities of Saltmarsh Sparrows. It is one of the few areas of the New Jersey Bay shore that was not historically impounded or ditched and can be used as a hydrological reference for restoration of Delaware Bay marshes.

Existing Projects

Wildlife Restoration Partnerships: Building to work with NRCS to stop haying practices in this area. Best contact: Larry Niles (larry.niles@gmail.com)



Marsh Wren are often found in the same habitat as Saltmarsh Sparrow.
Ray Hennessy

Honorable Mention

The following marshes were identified by the partner group as important to keep in mind and further assess for future work.

Barnegat Impoundments (E.B. Forsythe NWR) – 313 acres (127 ha)

These impoundments need a large amount of sediment input to fully restore but are currently tidal and provide a relatively confined area for beneficial use of dredge material. USFWS is currently collecting monitoring data to inform planning at this site.

Cheesequake State Park – 1,180 acres (478 ha)

This marsh is ditched, tidally restricted, and surrounded by *Phragmites* but has detections of all tidal obligate birds for the region including Saltmarsh Sparrows. The site requires hydrologic assessment to determine whether restoration projects targeting high marsh are feasible.

Mad Horse Creek WMA – 13,466 acres (5,449 ha)

This marsh is brackish and *Phragmites* is problematic in some areas, however Saltmarsh Sparrows have been observed at the adjacent artificial island. The area has not been thoroughly surveyed for Saltmarsh Sparrows. Dredging for the New Jersey Wind Port project will generate sediment that could be beneficially used here or marshes further to the north.

Reeds Beach – 1,290 acres (522 ha)

Much of this area is owned by Cape May NWR. Most of this area is dominated by low marsh although there are pockets of high marsh, especially along the upland edges. Cape May NWR recently completed a restoration project in this area with runnels that benefited approximately 100 acres of marsh. Surface Elevation Tables (SETs) in the area suggest the site is keeping up with sea-level rise. The American Littoral Society has several projects underway or in the planning stages in this area to place sand on the beaches (Pierces Beach, Kimbles Beach, Cooks Beach, Reeds Beach) and to install structures to protect the beaches. Sand placed on these beaches overwashes into the marsh and enhances elevation, and the structures and low berms at these beaches protect the marshes from direct tidal and wave exposure.

Green Creek – 349 acres (141 ha)

This area was restored to restore tidal influence into a *Phragmites*-dominated freshwater marsh that was formerly tidal. *Phragmites* is present here and most of the marsh is now low marsh. Flooding of residential and infrastructure areas along the eastern side of the site occurs and there is very little migration potential. Cape May NWR recently acquired much of this marsh and are monitoring it with SETs.

Egg Island WMA – 703 acres (285 ha)

This is a large expanse of majority low marsh along the bay shore of New Jersey. There is a significant amount of shoreline erosion in areas along the bay shore at this site; large-volume sediment placement could benefit the marsh if material becomes available. PSE&G has done extensive work in the eastern portion of this site, but the area is likely to continue to be low marsh without sediment placement. There are also some opportunities for marsh migration along the northern edge, but the migration zone is currently forest which would be a more difficult transition than in unforested areas.

Absecon Bay – 4,153 acres (1,681 ha)

This marsh is heavily ditched and has several tidally restricted areas leading to root collapse of marsh vegetation and pool formation. Areas along the upland edge are dominated by *Phragmites*. There are several dredge operations active in this area including dredging for the ICW. Dredge material from the ICW has been used in the past by the state to restore Avalon and Stone Harbor marsh complexes. Several restoration opportunities exist here but are not within the highest priorities for Saltmarsh Sparrows.

GreenVest and GreenTrust Alliance with their partners are proposing approximately 55 acres of salt marsh restoration south of Delilah Road by filling in select ditches while enhancing other ditches to restore a more natural tidal channel system and reverse degradation of the marsh platform dominated by tall and short form *S. alterniflora*. The site was originally proposed as a mitigation bank but is now being restored through grant funds and partnerships.

Recommended management / next steps to management action at this site include marsh hydrology assessment, sediment placement, ditch remediation, and restoration of tidal flow throughout the marsh.

Gandy’s Beach – 1920 acres (777 ha)

Blue Acres, NJ Department of Transportation, and Stockton University are doing beach restoration at Money Island using dredge material from Nantuxent Creek. Marsh work is planned but not funded in this area on TNC property (American Littoral Society). The surrounding area is owned by Natural Lands, providing longer-term migration potential at this site. Saltmarsh Sparrows are present, but breeding has not been confirmed.

Areas for Further Investigation

Higbee Beach – 326 acres (132 ha)

Island Beach State Park and Sedge Islands - 647 acres (262 ha)



Saltmarsh Sparrow chick. Joe Smith

Best Practices For Marsh Management For Saltmarsh Sparrow

Any management actions should follow best practices to not irreparably harm existing Saltmarsh Sparrow habitat. Necessary precautions include:

- Consulting local land managers and owners before any monitoring or management action is planned
- Initially limit management impact to a small portion of the high marsh)
- Conduct all management action outside the window of active Saltmarsh Sparrow breeding season (avoid May – September annually)

Permitting

Including permitting entities (e.g. State of New Jersey, USACE) early in project conceptualization is important to help communicate and prioritize the need for marsh restoration for coastal resilience and habitat for diverse taxa including the Saltmarsh Sparrow. Resource agencies (e.g. USFWS, National Oceanic and Atmospheric Administration) also need to be included in early project conceptualization to ensure federal trust resource conflicts are avoided in New Jersey. Presenting project ideas to these state and federal entities concurrently at Joint Permit Processing meetings is encouraged and can provide specific permitting requirements for a proposed project.

Contaminants

Contaminated sediments are an issue throughout the New Jersey coastline due to prolonged human use of the area. Legacy contaminants, such as Polychlorinated biphenyls (PCBs), mercury, Dichlorodiphenyltrichloroethane (DDT) and its metabolites, and other compounds may occur in dredged sediments as well as more novel contaminants. Some of these contaminants can change into more bioavailable forms once on a marsh surface and impact fish and wildlife at concentrations well below those considered for human health. Standard procedure for state and federal permitting will require sediment characterization to avoid placing sediment with unacceptable levels of these compounds on the marsh surface.

Monitoring

Any habitat restoration efforts should be monitored both pre-construction (2+ years before implementation) and post-construction (up to 10 years after implementation is complete) to measure change and determine whether vegetation goals and elevations have been met. This monitoring will ideally include an array of ecological metrics specific to tidal marshes in Maine and will be integral to build upon the existing knowledge base for salt marsh restoration in this area. The ACJV, SHARP, and Ducks Unlimited recently released [recommendations for monitoring saltmarsh sparrows at restoration sites](#) which includes a decision tree for deciding timelines, level and type of monitoring, and spatial distribution of data collection locations.

Acknowledgments

Thank you to the State of New Jersey and USFWS Coastal Programs for co-leading this effort with us. Thank you specifically to Emily Heiser (NJFW), Brian Marsh (USFWS), Kaity Ripple (USFWS), Joe Smith (USFWS), Lenore Tedesco (The Wetlands Institute), Liz Tymkiw (University of Delaware/SHARP), and attendees of the New Jersey working group meetings for informing the content of this document. Thank you to the Saltmarsh Habitat and Avian Research Program (SHARP) for providing detection data for Saltmarsh Sparrows which informed our sparrow data sections for each marsh.



First year hatchling. Joe Smith

Contact & Citation Information

For more information or to update information contained in the document please contact:

Mo Correll, Atlantic Coast Joint Venture:
maureen_correll@fws.gov

Suggested citation: Atlantic Coast Joint Venture. 2024. Report. Saltmarsh Restoration Priorities for the Saltmarsh Sparrow: New Jersey. Version 2.0. Available at: https://acjv.org/documents/NJ_SALS_comp_guidance_doc.pdf.

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